

Supplemental Surveying Office Calculations will be paid at the stated price of \$60.00 per hour. *Supplemental Field Surveying* will be paid at the stated price of \$110.00 per hour. The payment includes furnishing personnel, all surveying equipment, stakes, layout drawings, calculations, stakeout records and any materials and equipment necessary to perform the surveying and engineering work.

If the Engineer directs that the accuracy of the original stakeout be checked and the stakeout is found to be in error, perform the work required to check and correct the stakeout at no cost to the Department.

Exploratory Excavation required to locate a utility will be paid in accordance with Article 104-7.

Work Zone Signs (Portable) will be paid in accordance with Article 1110-4.

Flaggers will be paid by either the hour or day in accordance with Article 1150-4.

Any payments for *Supplemental Field Surveying* or *Supplemental Surveying Office Calculations* required by this section will be paid on the appropriate partial payment estimate.

Payment will be made under:

Pay Item	Pay Unit
Construction Surveying	Lump Sum
Supplemental Field Surveying	Hour
Supplemental Surveying Office Calculations	Hour

SECTION 802

DISPOSAL OF WASTE AND DEBRIS

802-1 DESCRIPTION

The work consists of the disposal of waste and debris including, but not limited to, furnishing any waste areas; providing and implementing a Development, Use and Reclamation Plan; any right of access to waste areas; disposing of waste and debris; dressing and shaping of waste areas; furnishing and spreading earth material over debris, rock, broken pavement and masonry; clearing and grubbing of waste areas; hauling waste and debris to waste areas or permitted landfills; assessment for wetlands and endangered species; obtaining required permits or certifications; and any tipping fees required for disposal in permitted landfills.

Define “waste” as all excavated materials that are not used in the construction of the project, including overburden from borrow sources and soil-type base course sources.

Define “debris” as all undesirable material encountered on the project.

802-2 GENERAL REQUIREMENTS

Follow the most recent reclamation procedures found on the Department’s website for all waste sites. Before the removal of any waste from any project, obtain certification from the State Historic Preservation Officer of the State Department of Cultural Resources certifying that the deposition of the waste material to the proposed waste area will have no effect on any known district, site building, structure or object, architectural or archaeological, that is included, or eligible for inclusion, in the National Register of Historic Places. Furnish a copy of this certification to the Engineer before performing any work in the proposed waste site.

Provide an area and dispose of waste and debris outside of the right of way, unless otherwise allowed by written request. Limit the materials placed in non-permitted disposal areas to clean soil, rock, concrete, brick, other inert materials and bituminous asphalt when placed at least 4 ft above the water table. Mixtures of soil and vegetation, that are primarily soil, may be placed in non-permitted disposal areas. Place all other debris in sites permitted by the Solid Waste Management Division of NCDENR, unless otherwise approved.

Section 802

Maintain the earth surfaces at all waste areas in a manner that will effectively control erosion and siltation until final acceptance of the project.

Shape the waste or disposal area to drain such that no water will collect or stand. Provide a functioning drainage system.

Shape rock and earth waste to contour and blend with the adjacent topography. Cover all rock, concrete, broken pavement and masonry with a minimum 6" thick layer of earth material from the project or borrow. Earth material should be tested to insure it will support long-term growth of the proposed ground cover and should be amended as necessary to support permanent growth. As an exception, side slopes constructed of all rock material will not require earth covering. Construct all slopes, other than rock, 2:1 or flatter. Construct rock slopes on a stable angle of repose.

Where the Engineer has granted permission to dispose of waste within the right of way, the Engineer will have the authority to establish whatever additional requirements may be necessary to insure the satisfactory appearance and drainage of the completed project.

Where electing to dispose of waste or debris in active public waste or disposal sites, provide evidence satisfactory to the Engineer that the Solid Waste Management Division of NCDENR has permitted the proposed area or site.

Where electing to dispose of waste in a waste or disposal area, other than active public waste or disposal areas permitted by the Solid Waste Management Division of NCDENR or on the Department's right of way or an existing borrow pit, submit jointly with the property owner a notarized Development, Use and Reclamation Plan for each waste or disposal area proposed for use.

As part of the Reclamation Plan, perform the following before wasting:

(A) Material Description

Detail the type of waste material proposed in the area. Only material originating from the Department's projects and complying with the Solid Waste Disposal Act will be permitted within the proposed waste or disposal area.

(B) Topography

Detail the existing topography and locations of the proposed access and egress haul roads. Detail the proposed final topography of the waste or disposal area showing any proposed drainage systems. If a pond is to be constructed or remain, the minimum depth shall be at least 4 ft as determined from the water table at the time the reclamation plan is executed. The slope of the soil below the water shall be between 5:1 and 2:1. The slope of the sides above the water line shall be 2:1 or flatter.

(C) Slopes

Rock and earth waste shall be shaped to contours that are compatible to and blend with the adjacent topography. Cover all rock with a minimum 6" layer of earth material either from project waste or from borrow. As an exception, side slopes constructed of all rock material will not require earth covering. Construct all slopes at a 2:1 or flatter except rock slopes that shall be on a stable angle of repose.

(D) Construction Debris

Cover construction debris and all broken pavement and masonry with a minimum 6" thick layer of earth waste material from the project or borrow. Shape the completed waste area as required above for the disposal of earth or rock waste.

(E) Erosion Control

Detail the temporary and permanent erosion control measures, along with design calculations, that are intended during use of the site and as part of the reclamation. Unless considered impractical due to special circumstances, provide in the plan for the use of staged permanent seeding and mulching and appropriate fertilizer topdressing on a continual basis during site use and the immediate total reclamation of the site when the site is no longer needed. Define the seed mixture proposed for establishing temporary and/or permanent vegetation. Establish permanent stand of vegetation before acceptance of project.

(F) Evaluation for Potential Wetlands and Endangered Species

Hire an experienced environmental consultant on the Department's approved list to perform an assessment of the waste site for potential conflicts with wetlands, areas of environmental concern, federally listed threatened or endangered species, and federal species of concern.

Delineate the boundaries of any wetlands or jurisdictional surface waters (streams) encountered. Follow the standard practice for documenting the wetland delineation including completion of the US Army Corps of Engineer's approved Wetland Determination Data Form. Document information including data regarding soil, vegetation and hydrology. Maintain a minimum 25 ft buffer adjacent to all sides of the wetland boundary and a minimum 50 ft buffer adjacent to any stream. Depict the limits of the delineated wetland and surrounding buffer on the Reclamation Plan. Do not dispose of waste and debris in any area under the Corps of Engineers' or any other environmental agencies' regulatory jurisdiction unless and until the NCDOT permit has been modified to permit such disposal activity in the jurisdictional area.

Perform a site assessment for federally listed threatened or endangered species to include habitats that may support these species. Provide to the Engineer a detailed report on the assessment findings. If federally listed threatened or endangered species, or habitat that may support such species, exist on the proposed waste site, notify the Engineer before continued pursuit of such site.

(G) Buffer Zones

Allocate sufficient area between the nearest property line and the tie-in of the slope to natural ground to allow for the operation of excavation, hauling, and seeding equipment and for the installation of any and all erosion control devices required. Leave additional undisturbed area between the source and any watercourse or body to prevent siltation of the watercourse or body and the movement of the shore line either into the watercourse or body or into the waste areas. Determine if the adjoining property owners or other government agencies require any additional buffer zones and comply with those requirements. [Suggested minimum distances are 10 ft from property lines and 50 ft from water bodies or watercourses.] Do not place waste material within the 100-year floodplain unless superseded by an environmental permit.

(H) Approval

Obtain written approval from the Engineer before wasting within the proposed waste or disposal area.

Submit a revised or additional reclamation plan if the non-permitted waste or disposal area is expanded by more than one acre or is significantly changed from the previously approved submittal.

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802-3 MEASUREMENT AND PAYMENT

Seeding and mulching, fertilizer topdressing and establishing erosion control measures for waste or disposal areas will be measured and paid at the contract unit prices for the items established in the contract.

When permitted to waste within the right of way and when the waste area requires additional covering material before seeding, provide covering material at no cost to the Department.

When waste areas are located outside the right of way, no payment will be made for any borrow used to cover rock, broken pavement, masonry or other inert materials.

Except as otherwise provided above, no direct payment will be made for the work covered by this section. Payment at the contract prices for the various items in the contract will be full compensation for all work covered by this section.

SECTION 806 RIGHT-OF-WAY AND CONTROL-OF-ACCESS MARKERS

806-1 DESCRIPTION

Furnish and install precast concrete or granite markers to mark the boundaries of the right of way or the control of access in accordance with the contract.

806-2 MATERIALS

Refer to Division 10.

Item	Section
Deformed Steel Bar Reinforcement	1070-2
Precast Concrete Units	1077

The Contractor may, at his option, use either granite or concrete markers. Make granite markers from granite that is hard and durable, of a light color, free from seams which impair its structural integrity, and of a good, smooth splitting appearance.

806-3 CONSTRUCTION METHODS

Precast the right-of-way and control-of-access markers in watertight forms of a size and shape that will produce a completed marker of the dimensions shown in the *Roadway Standard Drawings*. Construct the forms so as to impress the plastic concrete with the lettering and markings shown in the contract.

Cure the concrete in accordance with Article 420-15. Give that portion of the marker that will be above the surface of the ground ordinary surface finish in accordance with Subarticle 420-17(B).

If using granite markers, quarry and finish the markers to the dimensions indicated in the contract. Drill holes will be permitted in the sides and bottom.

Install the markers vertically in the ground to the depth and locations specified in the contract. Thoroughly tamp backfill material.

806-4 MEASUREMENT AND PAYMENT

Right-of-Way Markers will be measured and paid in units of each for the actual number of right-of-way markers furnished, installed and accepted.

Control-of-Access Markers will be measured and paid in units of each for the actual number of control-of-access markers furnished, installed and accepted.